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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,760	09/17/2003	Kiyoshi Fukuzawa	8012-1211	3837

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EXAMINER

DANIELS, MATTHEW J

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,760

Applicant(s)

FUKUZAWA ET AL.

Examiner

Matthew J. Daniels

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 8-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/17/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Claims 1-7 in the reply filed on 11 July 2005 is acknowledged.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 2, 3 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyman (USPN 2445579) in view of Signaigo (USPN 2444712). **As to Claim 1**, Hyman teaches an orienting method for an optical polymer film, the film passing through a processing bath

Art Unit: 1732

containing a fluid (Fig. 1, Item 16), and removing the fluid which exists on the polymer film by using a draining member upon leaving the processing bath (Fig. 1, Item 18). Hyman is silent to a) orienting the film after passing through the processing bath, and b) draining within 10 seconds of leaving the processing bath. However, both aspects are prima facie obvious for the following reasons:

a) Signaigo teaches orienting after passing through at least one processing bath containing a fluid (2:1-7).

b) One of ordinary skill would have found it prima facie obvious to wipe the sheet as soon after the processing bath of Hyman as possible in order to minimize the amount of excess iodine on the surface of the sheet (2:46-48). One would have been motivated to do so because iodine in the surface of the sheet is found to cause a darkening result when exposed to the boric acid solution (See Hyman's "darkening result" 4:13, and also 4:1-46).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Signaigo into that of Hyman in order to provide a highly efficient light-polarizing film having water, solvent, and scratch resistance, stiffness, and lacking the need to for stiffening laminations (Signaigo, 1:33-43). Additionally, it would have also have been obvious to combine the method of Signaigo with that of Hyman and orient after the processing bath because oriented sheets lose their orientation and polarization properties rapidly on exposure to water (1:10-15), and Hyman teaches at least one water processing step (2:44-4:46). **As to Claim 2**, Hyman teaches a draining member disposed at an exit of at least the first processing bath when there are plural processing baths (Fig. 1, Item 18). **As to Claim 3**, Hyman

Art Unit: 1732

additionally teaches a draining member at the exit of the last processing baths (3:24). **As to Claim 6**, Hyman (6:16) and Signaigo (2:24) both teach PVA films.

4. **Claims 4 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hyman (USPN 2445579) in view of Signaigo (USPN 2444712), and further in view of Moshrefzadeh (US Patent Application Publication 2001/0055153). Hyman and Signaigo teach the subject matter of Claim 1. See the rejection of Claim 1 under 35 USC 103(a). **As to Claim 4**, Hyman teaches a dyeing bath (Fig. 1, Item 16) and a hardening bath (Fig. 1, Item 22), but appears to be silent to a cleaning bath. However, Moshrefzadeh teaches a cleaning bath to remove plasticizers (Page 5, Par. 67). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Moshrefzadeh into that of Hyman and Signaigo in order to remove plasticizers and other contaminants which could inhibit dye uptake. **As to Claim 5**, Hyman teaches the dyeing bath and hardening bath in order (See Fig. 1), but is silent to a cleaning step prior to dyeing. However, Moshrefzadeh teaches the claimed order (Page 5, Par. 67). Signaigo teaches that orienting be performed after the dyeing and borating (2:1-8).

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hyman (USPN 2445579) in view of Signaigo (USPN 2444712), Moshrefzadeh (US Patent Application Publication 2001/0055153), and Schuler (USPN 4166871). **As to Claim 7**, Hyman teaches an orienting method for an optical polymer film comprising:

Art Unit: 1732

- c) dyeing the polymer film with a dyeing fluid contained in a dyeing bath through which the polymer continuously passes (2:28-43)
- d) removing the dyeing fluid existing on both surfaces of the film, with draining blades disposed near a film exit of the dyeing bath (Fig. 1, Item 18 and 2:45-50)
- e) hardening the polymer film with a hardening fluid contained in a hardening bath through which the polymer film continuously passes (3:33-46 and 2:48-3:5)
- f) removing the fluid existing on both surfaces with draining blades (3:22-26)

Hyman is silent to:

- a) cleaning the film prior to dyeing
- b) removing the cleaning fluid with draining blades
- f) removing the hardening fluid on both surfaces
- g) orienting the hardened polymer film in the air

However, these aspects would have been prima facie obvious for the following reasons:

- a) Moshrefzadeh teaches a cleaning bath to remove plasticizers (Page 5, Par. 67).
- b) It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use Hyman's wiping blades to remove Moshrefzadeh's cleaning solution in order to avoid diluting the dyeing bath
- f) Schuler teaches a second wiping station for removing the borating hardening solution (4:44-54). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to use Hyman's wiping blades for the same purpose.

Art Unit: 1732

g) Signaigo teaches orienting the hardened polymer film in air (2:1-7).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Moshrefzadeh, Schuler, and Signaigo into that of Hyman in order to a) remove plasticizers and other contaminants which could inhibit dye uptake, b) efficiently remove the borating solution and prevent fouling of the equipment and c) provide a highly efficient light-polarizing film having water, solvent, and scratch resistance, stiffness, and lacking the need to for stiffening laminations (Signaigo, 1:33-43). Additionally, it would have also have been obvious to combine the method of Signaigo with that of Hyman and orient after the processing bath because oriented sheets lose their orientation and polarization properties rapidly on exposure to water (1:10-15), and Hyman teaches at least one water processing step (2:44-4:46).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are pertinent to the Applicant's disclosure for the following reasons:

Okumura (USPN 4803014) teaches that orienting can be performed before or after dyeing

Racich (USPN 4591512) also teaches wipers

Land (USPN 4895769) teaches biaxial orientation

Lepoutre (USPN 3985599) teaches the disclosed tenter apparatus

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450.

The examiner can normally be reached on Monday - Thursday, 7:30 am - 5:30 pm.

Art Unit: 1732

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJD 7/19/05



MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER